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UNITED STATES DEPARTMENT OF AGRICULTURE
RURAL ELECTRIFICATION ADMINISTRATION

DEPRECIATION PROCEDURE
AS APPLIED TO
REA FINANCED SYSTEMS

Effective

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DEPRECIATION ACCOUNTING

There are two principal foundation stones to a system of adequate depreciation accounting.

STATISTICAL ANALYSIS

First: statistical analysis of the life histories of the capital assets. While such an analysis cannot forecast definitely the service life of any particular unit of a capital asset, it can determine an average life of such units in earlier experience that may serve as a forecast of the most probable life under the same conditions of an identical unit and of a fairly accurate average of the lives of a group of identical units. Given such an analysis of each class of capital assets an owner is in a position to calculate the average decline of service capacity per month or per year for each class; and given in addition a similar statistical analysis of probable ultimate salvage value, he can calculate an average decline per month or per year in money value, other factors affecting value remaining the same. In this way he is able to make allowances for the cumulative declines in service capacity and value. The greater the number of units of any class of capital assets and the greater the number of classes, the more accurate will be the calculations; and the owner who utilizes such data will be in the most favorable position. A table based on the best available although not entirely adequate experience of the industry of the probable lives and of the annual rates of depreciation to cover declines in service values of the capital assets involved in an enterprise producing and distributing electricity will be found in Appendix A. It should be noted that the depreciation rates in Appendix A are reflections of life expectancies based on the assumption of adequate current maintenance.

SYSTEM OF ACCOUNTS

Second: a system of accounts that takes cognizance of the statistical data noted above and by appropriate entries and balances reflects monthly or annually the loss of service value of capital assets as costs of operation, the reductions in and additions to the values of capital assets, and the net worth of the capital assets. Inasmuch as it is more prudent management for an owner slightly to underestimate than to overestimate the value of capital assets, such a system of accounting usually has a conservative bias.

In conformity with these principles and procedures the most approved depreciation accounting for an electric utility presents the following elements:

CHARGES TO OPERATIONS EXPENSE

1. Charges directly to Operations Expense of costs that, although they may be related to capital assets, do not represent the replacement of any unit or part of a unit; such as tree trimming, tightening hardware or guys, and patrolling the lines.

CHARGES TO
MAINTENANCE
EXPENSE

2. Charges directly to Maintenance Expense of costs that represent the replacement of minor parts of a capital asset, such as insulators, bushings on a transformer, a part of an assembly, and replacing transformer oil. A minor part is identified as less than or a part of a replacement unit, the replacement units for recommended procedures being strictly defined, as in Appendix B.

CHARGES AS
EXPENSE

3. Periodic charges as expense, directly to the appropriate Depreciation Account of each capital asset, of an amount equal to the depreciation indicated by predetermined rates of depreciation such as are presented in Appendix A.

CREDITS TO
VALUATION
ACCOUNTS

4. A simultaneous credit to a valuation account identified as Reserve for Depreciation of an amount equal to any charge to a depreciation expense account. This reserve account (which may be affected by other charges to be indicated below) reflects in its balance at any time the accrued imperceptible as well as perceptible probable decline in the service life and value of the capital assets to which it refers. It is a valuation account only and serves two principal purposes; first, simply as an amount to be subtracted from the balance sheet plant account to determine true probable present plant condition and worth; and second, as the basis for a managerial decision whether any part of cash assets should for reasons of prudence be segregated for future replacements of plant.

REPLACEMENT
UNITS

5. The cost of replacement of a replacement unit (such as those defined in Appendix B) is charged to the appropriate plant account, because it represents a new capital asset; and the cost of the replaced replacement unit is credited to the same plant account because the original unit is retired. The cost of the replaced unit (less salvage) is charged to the reserve for depreciation because the depreciation on a retired unit should be retired with it. The salvage value of the replaced unit is charged to the appropriate inventory account.

DEFINITIONS OF TERMS

DEPRECIATION

"Depreciation" may be defined as the consumption of investment in property, or the loss in the service capacity of property, due to use, wear and tear, physical deterioration, the current action of the elements, obsolescence, inadequacy, or the demands of public authority. Briefly, it results from the usual forces and conditions which limit the service life of property and cause its retirement.

The property may suffer a certain amount of depreciation without a perceptible decrease in efficiency; however, beyond a certain point the efficiency may be so greatly reduced that rehabilitation may become necessary. Therefore, the efficiency of a system would be affected to just the degree to which the depreciation of the individual units affects the normal functions of the plant.

Replacements increase the life of the property and the loss through retirements should be deducted from the gross amount of depreciation. The practice of accumulating depreciation with the resultant reserve in effect provides that the reserve be reduced by the amount of replacement cost incurred each period. We are, therefore, in effect evaluating our reserves by all replacement costs. Since the reserves act as a valuation account to the plant, and the replacement cost reduces the reserves, all replacement costs tend to retard the writing down of the plant value.

OBSOLESCENCE

"Obsolescence" means decrease in value due to the normal progress of the art, economic changes, inventions, inadequacy to the growing needs of the business, public improvements, competition, etc.

DEPRECIATION RATE

The "depreciation rate" is the rate which is applied to the cost of an asset in order to determine the estimated reduction in value of such assets. The depreciation rate is established by the consideration of three factors: cost installed, useful life expectancy and residual or scrap value.

COST

"Cost" means the amount of money actually paid for property or services or the cash value at the time of the transaction of any consideration other than money.

PRESENT VALUE

"Present value" of the service remaining in a unit of property refers to the present worth of the probable future operation returns from its future service. Since the

remaining service lies in the future, present value is dependent upon sound forecast of the probable future service life of the property. As the unit approaches retirement such estimates can be made with considerable accuracy, but the true service life is never known until the property is retired. Present depreciable value is present less salvage value.

SALVAGE
VALUE

"Salvage value" of a unit of property is the net sum remaining over and above the cost of its removal and sale, which can be realized when it is discarded at the end of its service life or used in another service when retired from its present service. Until the unit is retired, salvage value is an estimated quantity.

RESIDUAL
VALUE

"Residual value" is the resale value of a retirement unit less retirement expense. This corresponds to "Total Salvage" on the retirement work orders. For these items of property which have a definite predictable resale value, residual value has been taken into consideration in determining the depreciation rate. On other retirement units the residual value has been assumed to be zero.

RESERVE

The provision for depreciation is credited to a reserve account which is sometimes referred to as a valuation account since both the asset account and the reserve must be considered in determining the current book value of the asset. Credits to a reserve instead of to the asset are preferable for two reasons: (1) depreciation is an estimate and this fact is indicated more clearly by crediting a reserve than by crediting the asset account; (2) by crediting a reserve, the balance of the asset account represents the original cost of the assets still in service.

REPLACEMENT

"Replacing" or "replacement," when not otherwise indicated in the context, means the construction or installation of electric plant in place of property retired, together with the removal of the property retired.

MAINTENANCE
EXPENSE

"Maintenance expense" is incurred when a part of a unit of property is replaced, such as insulators, bushings on transformers or a part of any assembly.

OPERATIONS
EXPENSE

"Operations expense" is that cost which is incurred such as tree trimming, tightening hardware and guy wires, patrolling the lines, testing transformer oil, etc.

UNITS OF
PROPERTY

"Units of property" means those items of electric plant which when installed or retired, with or without replacement, are accounted for by charging or crediting the book cost thereof to the electric plant account in which included.

INTANGIBLE
PLANT

The term "intangible" means not having bodily substance. Strictly speaking, therefore, an asset is intangible if its value resides not in physical properties of the asset itself, but in the rights which its possession confers upon its owner. Intangible assets include good will, patents, copyrights, franchises and similar assets having no physical substance.

PRODUCTION
PLANT

"Production plant" is any plant the fundamental purpose of which is the production or generation of electrical energy.

TRANSMISSION
SYSTEM

"Transmission system" means: (1) all land, conversion structures, and equipment employed at a primary source of supply (i.e., generating station, or point of receipt in the case of purchased power) to change the voltage or frequency of electric energy for the purpose of its more efficient or convenient transmission; (2) all land, structures, lines, switching and conversion stations, high tension apparatus, and their control and protective equipment between a generating or receiving point and the entrance to a distribution center or wholesale point; and (3) all lines and equipment whose primary purpose is to augment, integrate, or tie together the sources of power supply.

DISTRIBUTION
SYSTEM

"Distribution system" means all land, structures, conversion equipment, lines, line transformers, and other facilities employed between the primary source of supply (i.e., generating station, or point of receipt in the case of purchased power) and of delivery to customers, which are not includible in transmission system, as defined above, whether or not such land, structures and facilities are operated as part of a distribution system.

Note: Stations which change the energy from transmission to distribution voltage shall be classified as distribution stations.

GENERAL
PLANT

"General plant" of a system ordinarily represents lands, structures, various types of tools and any other equipment which is not a part of the utility system, but which is necessary in carrying out the functions intended of a generation, transmission or distribution system.

SERVICE
LIFE

"Service life" of a unit is that period of time (or service) extending from the date of its installation to the date of its retirement from service. Although the service life of physical property usually is expressed in years, it also may be given in terms of production units (screws, wheels, cars, pounds, miles, car-miles), time units of less than a

year, (months, hours, minutes), or combinations of physical units or services and time (lamp-hours, ten-years).

PROBABLE
USEFUL LIFE

"Probable useful life" of a property unit is that period of time extending from its installation date to the estimated date when it probably will be retired from service.

USEFUL LIFE
EXPECTANCY

"Useful life expectancy" of a property unit is that period of time extending from the observation age (usually the present) to the forecasted date when the unit probably will be retired from service. Age plus expectancy equals probable life.

DEPRECIATION RATES

<u>CLASS OF PLANT</u>	<u>ANNUAL RATE</u>	<u>MONTHLY RATE*</u> <u>(MULTIPLIER)</u>
Steam Production	2.52	.0021
Hydraulic Production	Individual Rates to be Established	
Internal Combustion Engine		
High Speed	7.00	.0058
Slow Speed	3.00	.0025
Mobile Units	10.00	.0083
Transmission Plant	Individual Rates to be Established	
Distribution Plant	3.48	.0029
Electric Plant Purchased	Various, depending on class of property acquired	
General Plant		
Office Buildings		
Concrete	2.00	.00166
Wood	3.00	.0025
Office Furniture and Equipment	6.00	.005
Transportation Equipment	33.33	.0277
Stores, Shop and Laboratory Equipment	6.00	.005
Tools and Work Equipment	Not Depreciated	
Communication Equipment	4.00	.0033
Miscellaneous Equipment	4.00	.0033

*In the Depreciation Manual, these rates are stated in terms of percentage.

DEPRECIATION PROCEDURE ARRANGED IN CONFORMITY

WITH THE REA MANUAL OF ACCOUNTS

UTILITY PLANT

Steam Production Plant

The useful life expectancy of steam production plant as reflected by Appendix A, Table No. 1.1, indicates that a composite rate of 2.52 percent per annum is a reasonable rate on which to base estimated depreciation. Depreciation should, therefore, be computed on the balances in the steam production plant accounts (311 through 316) on the first of each month at the rate of 1/12 of 2.52 percent per annum, or .21 percent. The net reserve for depreciation each month should reflect the gross depreciation minus the loss due to retirement and/or replacement of units. The following monthly journal entry should be made to record depreciation expense:

Debit ACCOUNT 503.1a - DEPRECIATION OF STEAM PRODUCTION PLANT
Credit ACCOUNT 250.1a - RESERVE FOR DEPRECIATION OF STEAM
PRODUCTION PLANT

Hydraulic Production Plant

The useful life expectancy of hydraulic production plant is estimated for each individual system. Such systems will be advised of an approved rate for application in computing estimated depreciation in each instance. Depreciation expense should be computed on the balances in the hydraulic production plant accounts (321 through 326) on the first of each month in accordance with the rates prescribed. The net reserve for depreciation each month should reflect the gross depreciation minus losses due to retirement and/or replacement of units. To record estimated depreciation on this type of production plant, the following monthly journal entry should be made:

Debit ACCOUNT 503.1b - DEPRECIATION OF HYDRAULIC PRODUCTION PLANT
Credit ACCOUNT 250.1b - RESERVE FOR DEPRECIATION OF HYDRAULIC
PRODUCTION PLANT

Approved rates on hydraulic production plants not now in existence will be supplied by REA.

Internal Combustion Engine Production Plant

The life expectancy on internal combustion engines (accounts 331 through 336) has been established as follows:

- A. High Speed (750 RPM and above) - The useful life expectancy is estimated at 14 years, which would permit a depreciation rate of 7 percent per annum to be used. Depreciation should be computed on the balances in these accounts on the first of each month at the rate of 1/12 of 7 percent, or .58 percent. The net reserve for depreciation each month should reflect the gross depreciation minus losses due to retirement and/or replacement of units. To record the monthly depreciation expense, the following journal entry should be made:

Debit ACCOUNT 503.1c - DEPRECIATION OF INTERNAL COMBUSTION ENGINE
PRODUCTION PLANT (HIGH SPEED)

Credit ACCOUNT 250.1c - RESERVE FOR DEPRECIATION OF INTERNAL
COMBUSTION ENGINE PRODUCTION PLANT
(HIGH SPEED)

- B. Slow Speed (749 RPM and below) - The useful life expectancy as reflected by Appendix A, Table No. 1.3, indicates that a composite rate of 3.04 percent per annum is a reasonable rate on which to base estimated depreciation. For convenience in accounting, the rate of 3 percent per annum should be used. Depreciation should therefore be computed on the balances in these accounts on the first of each month at the rate of 1/12 of 3 percent, or .25 percent. The net reserve for depreciation each month should reflect the gross depreciation minus losses due to retirement and/or replacement of units. To record the monthly depreciation expense, the following journal entry should be made:

Debit ACCOUNT 503.1d - DEPRECIATION OF INTERNAL COMBUSTION ENGINE
PRODUCTION PLANT (SLOW SPEED)

Credit ACCOUNT 250.1d - RESERVE FOR DEPRECIATION OF INTERNAL
COMBUSTION ENGINE PRODUCTION PLANT
(SLOW SPEED)

- C. Mobile Units - The useful life expectancy as reflected by Appendix A, Table No. 1.3, indicates that a composite rate of 10 percent per annum is a reasonable rate on which to base estimated depreciation. Depreciation should be computed on the balances appearing in these accounts on the first of each month at the rate of 1/12 of 10 percent, or .83 percent. The net reserve for depreciation each month should reflect the gross depreciation minus losses due to retirement and/or replacement of units. To record the depreciation each month, the following journal entry should be made:

Debit ACCOUNT 503.1e - DEPRECIATION OF INTERNAL COMBUSTION ENGINE
PRODUCTION PLANT (MOBILE)
Credit ACCOUNT 250.1e - RESERVE FOR DEPRECIATION OF INTERNAL
COMBUSTION ENGINE PRODUCTION PLANT
(MOBILE)

Transmission Plant

The useful life expectancy of transmission plant is estimated for each individual system. Such systems will be advised of an approved rate for application in computing estimated depreciation in each instance. Depreciation expense should be computed on the balances in the transmission plant accounts (341 through 349) on the first of each month in accordance with the rates prescribed. The net reserve for depreciation each month should reflect the gross depreciation minus losses due to retirement and/or replacement of units. To record estimated depreciation on this type of production plant, the following journal entry should be made:

Debit ACCOUNT 503.2 - DEPRECIATION OF TRANSMISSION PLANT
Credit ACCOUNT 250.2 - RESERVE FOR DEPRECIATION OF TRANSMISSION
PLANT

Any transmission plants constructed in the future should apply the same rate as that used on distribution plant when computing depreciation until a study can be made to ascertain an equitable rate.

Distribution Plant

The useful life expectancy of REA distribution lines as reflected by Table No. 1.5 of Appendix A indicates that a composite rate of 3.4 percent per annum is a reasonable rate on which to base estimated depreciation. Depreciation should be computed on the balances in the distribution plant accounts (351 through 363) on the first of each month at the rate of 1/12 of 3.48 percent, or .29 percent. This figure is used for convenience in computing the monthly depreciation. The net reserve for depreciation each month should reflect the gross depreciation minus losses due to retirement and/or replacement of units. (See retirement unit and/or replacement unit lists.) To record the monthly depreciation expense, the following journal entry should be made:

Debit ACCOUNT 503.3 - DEPRECIATION OF DISTRIBUTION PLANT
Credit ACCOUNT 250.3 - RESERVE FOR DEPRECIATION OF DISTRIBUTION
PLANT

Depreciation should be computed and recorded on meters and transformers whether actually in service or held in reserve.

Construction Work in Progress

All costs in connection with construction are accumulated in clearing accounts 103.1, CONSTRUCTION WORK IN PROGRESS-GENERAL, 103.2, CONSTRUCTION WORK IN PROGRESS-SPECIAL CONSTRUCTION, and 103.3, CONSTRUCTION WORK IN PROGRESS-FORCE ACCOUNT. Depreciation will not be computed on costs collected in these accounts. However, after construction of the lines or an extension has been finally completed, the costs of the completed construction should be transferred to ACCOUNT 103.4, UNCLASSIFIED ELECTRIC PLANT IN SERVICE. Depreciation should then be computed on a monthly basis in accordance with the foregoing procedure, depending on the type of plant such costs represent, until these costs have been distributed to the appropriate plant accounts.

Electric Plant Purchased

All costs of properties acquired are charged to ACCOUNT 391, ELECTRIC PLANT PURCHASED. Until an inventory and appraisal is obtained and the balance in this account distributed to the proper plant accounts, depreciation should be computed on the purchase price of the property acquired. Depreciation should be computed on the properties acquired by applying the prescribed rate as set forth in the manual to the class of properties purchased. When the balance in this account has been distributed to plant accounts by an auditor, adjustments of the amount depreciated may be made at that time using the depreciation rate heretofore applied for production, transmission and distribution systems.

General Plant

General plant represents the personal property of a system which is necessary to carry on the maintenance and operation of the system, as well as the administration thereof. Inasmuch as general plant items are not too numerous, it is desirable to maintain individual unit accountability records indicating the type and cost of each piece of equipment, as well as the date of purchase. By maintaining such a record, it will be possible to treat such items of general plant individually for the purpose of depreciation as well as retirement. That portion of any depreciation reserve that is accumulated with respect to any unit of general plant which is sold or otherwise disposed of should be removed from the reserve. For the sake of uniformity, it is recommended that depreciation be recorded on each principal item of general plant from the date of purchase in accordance with the rates provided in this manual.

- A. Office Buildings - The useful life of a building for business purposes depends to a large extent on the suitability of the structure to its use and location, its architectural design and quality, the shifting of land values as well as the extent of maintenance and rehabilitation.

The extent to which the equipment of a building, such as heating, plumbing, electrical wiring and fixtures, and other improvements,

must be replaced is an important factor in determining the overall rate of depreciation to be applied to the building and its appurtenances. Such a rate contemplates that the cost of new equipment be capitalized and that the cost of equipment retired will be charged to the depreciation reserve. In instances where it is not feasible to determine the cost of the old equipment to be replaced, the cost of the new equipment may be charged to the depreciation reserve. Considering these factors, it has been estimated that the average building (concrete, brick) has a useful life expectancy of 50 years, while that of a cheaper (wood) building would be approximately $33\frac{1}{3}$ years. Maintenance of structures will not be deducted from the depreciation reserve.

Depreciation should therefore be computed and recorded on the balance appearing in ACCOUNT 371, STRUCTURES AND IMPROVEMENTS, on the first of each month at the rate of $\frac{1}{12}$ of 2 percent, or .166 percent (concrete, brick) and at the rate of $\frac{1}{12}$ of 3 percent, or .25 percent for wood buildings.

Note: Depreciation should be computed from the date of completion in accordance with these instructions.
A structure shall be deemed completed when delivery is made by the construction contractor to the first purchaser devoting such structure to the purpose for which it was originally constructed.

- B. Office Furniture and Equipment - Through experience, it has been found that 17 years is an accurate estimate of the probable useful life for this type of equipment. Depreciation should be computed on the balance appearing in ACCOUNT 372, OFFICE FURNITURE AND EQUIPMENT, at the monthly rate of $\frac{1}{12}$ of 6 percent, or .5 percent.
- C. Transportation Equipment - Experience has indicated that the average useful life expectancy of transportation equipment including trucks, truck appurtenances (such as spotlights, bodies, pole trailers, etc.) is approximately 3 years with little or no residual value. A rate of $33\frac{1}{3}$ percent per annum, or a monthly rate of 2.77 percent, should therefore be used in computing estimated depreciation on equipment of this type. The following monthly journal entry should be made to record estimated depreciation:

Debit ACCOUNT 903 - TRANSPORTATION EXPENSE-CLEARING
Credit ACCOUNT 250.4 - RESERVE FOR DEPRECIATION OF GENERAL
PLANT (TRANSPORTATION EQUIPMENT)

- D. Stores, Shop and Laboratory Equipment - Experience indicates that the average normal service life of stores, shop and laboratory equipment is 17 years. Depreciation should therefore be estimated monthly on the balances in ACCOUNTS 374, STORES EQUIPMENT, 375, SHOP EQUIPMENT, and 376, LABORATORY EQUIPMENT, on a basis of 17 years useful life expectancy. The depreciation rate applied, for the convenience of accounting, is 6 percent per annum, or .5 percent per month.

- E. Tools and Work Equipment - The costs of all small tools, such as pliers, screw-drivers, hammers, axes, shovels, etc., are capitalized and charged to ACCOUNT 377, TOOLS AND WORK EQUIPMENT, at the time of purchase. When new tools are purchased to replace in kind tools which have been lost, stolen, or those in an unusable condition, the costs of such replacements should be treated as an expense and charged to the appropriate operating or maintenance account. This applies only to those tools the costs of which were charged to ACCOUNT 377 when purchased. This procedure eliminates the necessity of accounting for retiring units and concurrently capitalizing costs of new units of a like kind. If the units purchased as replacement constitute a betterment, it will be necessary to capitalize the cost of the new unit and retire the old unit.

A unit accountability record of tools and equipment under this classification should be established to provide a perpetual inventory reflecting a description of the unit, original cost, quantity, etc. The cost of any missing units which are not intended to be replaced should be retired from the plant account and concurrently charged to an appropriate expense account. It is recommended that each unit of property be stencilled for identification purposes so that it will be possible to maintain the unit accountability record as explained above.

- F. Communication Equipment - Experience indicates that the useful life expectancy of equipment of this type is 25 years. Depreciation should therefore be estimated and recorded monthly by applying a rate of 4 percent per annum, or .33 percent per month, to the costs of such equipment as indicated by the balance as of the first of the month in ACCOUNT 378, COMMUNICATION EQUIPMENT.
- G. Miscellaneous Equipment - Equipment chargeable to ACCOUNT 379, MISCELLANEOUS EQUIPMENT, represents general plant not properly chargeable to any other account. Experience indicates that miscellaneous equipment ordinarily has a useful life expectancy of 25 years. Depreciation should be estimated monthly on the balance in ACCOUNT 379, MISCELLANEOUS EQUIPMENT, as of the first of each month by applying a rate of 4 percent per annum, or .33 percent per month.

With the exception of depreciation as applied to Transportation Equipment, the following journal entry is to be used to record estimated depreciation on general plant each month:

Debit ACCOUNT 503.4 - DEPRECIATION OF GENERAL PLANT

Credit ACCOUNT 250.4 - RESERVE FOR DEPRECIATION OF GENERAL PLANT

APPENDIX A

DEPRECIATION OF COMPONENT PARTS OF PLANT ACCOUNT
AND
COMPOSITE RATE OF DEPRECIATION FOR DIFFERENT
TYPES OF PLANTS

TABLE 1.1

DEPRECIATION OF STEAM PLANT

F.P.C. Acct. No.	Numbers Refer to "List" of Units of Property F.P.C., 2/1/37	Years of Life	Percent Depreciation Per Year
310	Land and Land Rights	-	-
311	Structures and Im- provements, Numbers 1, 2, 3, 4, 5, 6, 7, 8 and 14	20	4.75
	Numbers 9, 12 and 13	50	2.00
	Numbers 10 and 11	30	3.16
312	Boiler Plant Equipment		
	A. Steam Boiler Installation		
	Numbers 1, 3, 4, 6, 8, 9	35	2.72
	Numbers 2, 5, 7	35	2.86
	B. Draft Equipment		
	Numbers 1, 3, 4, 5	15	6.67
	Numbers 2, 6	35	2.86
	C. Feed Water System		
	Numbers 1, 2, 3, 4, 5, 6, 7, 8	35	2.72
	D. Coal Fuel Equipment		
	Numbers 1, 19, 22	35	2.86
	Numbers 2, 3, 4, 7, 9, 12, 13, 14, 15, 20, 21	40	2.37
	Numbers 5, 11, 17, 18	10	10.00
	Numbers 6, 8, 10, 16	15	6.34
	E. Pulverized Fuel Equipment		
	Numbers 1, 2, 3, 13, 15	20	4.75
	Numbers 4, 5, 6, 7, 8, 9, 11, 12	15	6.34
	Numbers 10, 14, 16	40	2.50

<u>F.P.C. Acct. No.</u>	<u>Numbers Refer to "List" of Units of Property F.P.C. 2/1/37</u>	<u>Years of Life</u>	<u>Percent Depreciation Per Year</u>
	F. Oil Fuel Equip- ment		
	Numbers 1, 2, 3, 4	35	2.72
	G. Gas Fuel Equip- ment		
	Numbers 1, 2, 3	40	2.37
	H. Ash Handling Equipment		
	Numbers 1, 4, 6, 8, 10, 12	40	2.37
	Numbers 2, 3, 5, 7, 9, 11	15	6.34
	I. Water Supply and Purification System		
	Numbers 1, 2, 3	25	3.80
	Number 5	50	2.00
	J. Ventilating Equip- ment		
	Numbers 1, 2, 3, 4	25	3.80
	K. Instruments and Meters		
	Numbers 1, 2, 3, 4	25	3.80
	L. Boiler Plant Piping		
	Numbers 1, 2, 3, 4, 5, 6, 7	30	3.17
313	Engine (steam) and Engine Driven Generators		
314	Turbo-generator Units		
	A. Engine-Driven Generating Installation (Acct. 313)		
	Numbers 1, 2, 3, 5, 6	35	2.57
	Number 4	35	2.86
	B. Turbo-generator Installation (Acct. 314)		
	Numbers 1, 2, 4, 5, 6, 7	35	2.72
	Number 3	35	2.86

F.P.C. Acct. No.	Numbers Refer to "List" of Units of Property F.P.C. 2/1/37	Years of Life	Percent Depreciation Per Year
	C. Condensing and Cooling Water System. (Accts. 313 and 314)		
	Numbers 1, 3, 7, 10	35	2.72
	Number 2A Condenser shell etc.	35	2.72
	Number 2B Condenser tube and sheets	8	11.22
	Numbers 4, 5, 6, 8, 9	15	6.67
	D. Central Generator Cooling System (Accts. 313 and 314)		
	Numbers 1, 2, 3, 4	25	3.80
	E. Central Lubricating System (Accts. 313 and 314)		
	Numbers 1, 2, 3, 4, 5	35	2.72
	F. Instruments and Meters (Accts. 313 and 314)		
	Numbers 1, 2	25	3.80
	G. Engine and Turbine Plant Piping (Accts. 313 and 314)		
	Numbers 1, 2, 3, 4, 5, 6, 7	30	3.00
315	Accessory Electric Equipment		
	Numbers 1, 6, 12, 13, 17, 21, 26, 27	25	4.00
	Numbers 2, 3, 4, 7, 8, 9, 14	35	2.72
	Numbers 5, 11, 15, 18, 19, 20, 23, 24, 25	45	2.00
	Number 10	45	2.22
	Number 16	5	10.00
	Number 22	10	10.00
316	Miscellaneous Power Plant Equipment		
	Numbers 1, 2, 5, 6, 8, 9, 11, 14	25	3.80
	Numbers 3, 4, 7, 10, 12, 13	35	2.58

F.P.C. Acct. No.	Numbers Refer.to "List" of Units of Property F.P.C. 2/1/37	Years of Life	Percent Depreciation Per Year
Estimated normal life		35	
Composite rate		2.52%	

TABLE 1.2

DEPRECIATION OF HYDRAULIC
PLANT (GENERATION)

Depreciation rates shall be calculated for each individual plant based upon the following rates of depreciation for the component parts:

	<u>Years</u>	<u>Depr. Rate</u>
321 Structures and Improvements		
Frame Dwellings	25	4
Concrete Substructure	*	0
Brick and Steel Superstructure	50	2
322 Reservoirs, Dams and Waterways		
Earth Dams	*	0
Concrete Dams	*	0
Timber Dams	25	4
Canals	*	0
Flumes, Wooden	10	10
Flumes, Steel	25	4
Flumes, Concrete	40	2.5
Tunnels	*	0
Steel Pipes, Exposed	30	3.33
Steel Pipes, Buried	25	4
Wood Pipes	25	4
Concrete Pipes	40	2.5
Trashracks and Structures	25	4
Metal Gates and Valves	25	4
Timber Gates	15	6.66
Gate Houses	25	4
323, 324, 325 All Power House Equipment	25	4
326 Roads, Railroads and Bridges	25	4
342 Structures and Improvements		
Outdoor Substation Equipment (See Transmission lines)		

* The life of these units of property is usually considered perpetual.

Based upon the above table, the Depreciation rate for the above existing projects will be:

Name of System

California 6G Modoc (Paisley Plant)	3%
Idaho 14G Valley	3%
Michigan 28G Presque Isle (Tower Plant)	2%
(Atlanta Hydro Plant)	3%
(Atlanta Diesel Plant)	4%
North Carolina 23G Caldwell (Sharp Falls Plant)	2%
North Carolina 46G Madison	
(Marshall and Burnsville Hydro Plant)	2%
(Burnsville Diesel Plant)	4%
Oregon 2G Lane	2.5%
Oregon 26G Wasco	3.5%
Utah 6G Garfield (Torrey Plant)	4%
Utah 8G Duchesne	3%
Virginia 35G Madison	4%
Washington 23G Grays Harbor	3%
Wisconsin 53G Eau Claire	2%
Wisconsin 64GT LaCrosse	
(Rushford and Brightdale Hydro Plant)	2%
Wyoming 11G Lincoln	2%

TABLE 1.3

DEPRECIATION OF INTERNAL
COMBUSTION PLANT (Gas or Diesel)

The above plants will be divided into three classes:

(A) High speed (above 750 RPM)
Depreciation rate

7%

(B) Depreciation of Diesel Plants
Slow Speed (below 749 RPM)

F.P.C. Acct. No.	Numbers Refer to "List" of Units of Property F.P.C. <u>2/1/37</u>	Est. Life Years	Depreciation Rate
330	Land and Land Rights	-	0.00
	Well and Casing	50	2.00
331	Structures and Improvements		
	Item One	50	2.00
	Item Two	20	4.75
	Item Three	20	4.75
	Item Four	20	4.75
	Item Five	20	4.75

F.P.C. Acct. No.	Numbers Refer to "List" of Units of Property F.P.C. 2/1/37	Est. Life Years	Depreciation Rate
332	Fuel Holders, Producers and Accessories All items one to ten, inc.	25	3.80
333	A. Internal Com- bustion Engines		
	Item A-1	25	3.60
	Item A-2	25	3.60
	Item A-3	25	3.60
	Item A-4	25	3.60
	B. Lubricating System		
	Item B-1	25	3.60
	Item B-2	25	3.60
	Item B-3	25	3.80
	Item B-4	25	3.80
	Item B-5	35	2.72
	C. Cooling System		
	Item C-1	25	3.80
	Item C-2	30	3.00
	Item C-3	35	2.72
	Item C-4	25	3.80
	Item C-5	35	2.72
	Item C-6 (concrete hotwell)	50	2.00
	Item C-6 (Steel tank)	25	3.80
	Item C-7	25	3.80
	D. Starting System		
	Item D-1	25	3.60
	Item D-2	25	3.80
	Item D-3	25	3.80
	Item D-4	25	3.60
	Item D-5	25	3.60
	E. Intake Air Supply		
	Item E-1	25	3.60
	Item E-2	20	4.75
	Item E-3	25	3.60
	Item E-4	50	2.00
	F. Exhaust System		
	Item F-1	20	4.75
	Item F-2	20	4.75
	Item F-3	25	3.80

F.P.C. Acct. No.	Numbers Refer to "List" of Units of Property F.P.C. 2/1/37	Est. Life Years	Depreciation Rate
	G. Supercharger	25	4.00
334	Generators		
	Item One	35	2.71
	Item Two	35	2.71
	Item Three	50	2.00
	Item Four	30	3.16
	Item Five	30	3.16
335	A. Accessory Electric Equipment		
	Item A-1	30	3.16
	Item A-2	30	3.16
	Item A-3	30	3.16
	Item A-4	30	3.16
	Item A-5	30	3.16
	Item A-6	20	4.75
	B. Other		
	Item B-1	10	10.00
	Item B-2	10	10.00
	Item B-3	35	2.70
	Item B-4	25	3.80
	Item B-5	45	2.00
	Item B-6	45	2.00
	Item B-7	35	2.70
	Item B-8	35	2.70
	Item B-9	30	3.16
336	Misc. Power Plant Equipment		
	Item 1	30	3.16
	Item 2	35	2.58
	Item 3	35	2.58
	Item 4	20	4.25
	Estimated normal life	30	
	Composite rate	3.04%	
	(c) Mobile units		
	Estimated life	10 years	
	Depreciation rate	10%	

TABLE 1.4

DEPRECIATION OF TRANSMISSION PLANT

Each transmission project will have a composite rate of depreciation based upon the following depreciation rates for the component parts:

(a)	Est. Life Years	Depreciation Rate
<u>Account Number</u>		
342 Structures and Improvements	50	2
343 Station Equipment	35	2.7
344 Towers and Fixtures	50	1.9
345 Poles and Fixtures	33-1/3	3.0
346 Overhead Conductor and Devices		
Copper	50	1.6
Aluminum Composite	40	2.25
Copper composite	40	2.25
Steel	15	6.33
347 Underground Conduit	50	2.0
348 Underground Conductors and Devices	30	3.0
349 Roads and Trails	60	1.66

(b) Based upon the above rates of depreciation, the existing transmission projects shall have the following rates of depreciation:

Texas 121 Brazos	2.64
Louisiana 21 Webster	2.88
Minnesota 70 Hennepin	2.88
North Dakota 20 Grand Forks	2.64
Mississippi 36 (Sold)	2.68
Iowa 47 Franklin ** (Same as distribution)	3.60
Iowa 48 Pocahontas ** (Same as distribution)	3.60
Wisconsin 64GT LaCrosse	2.64

** 7.2 - 12,500 Volt systems

TABLE 1.5

DEPRECIATION OF DISTRIBUTION PLANT

<u>Account Number</u>	<u>Est. Life Years</u>	<u>Depreciation Rate</u>
351 Structures and Improvements	40	2.5
352 Station Equipment*	25	3.8
354 Poles, Towers and Fixtures	25	3.8
355 Overhead Conductor and Devices		
Copper	50	1.6
Aluminum Composite	35	2.85
Copper Composite	35	2.85
Steel	15	6.3
Composite rate		2.67
356 Underground Conduit	30	3.33
357 Underground Conductor and Devices	30	3.0
358 Line Transformers	25	3.6
359 Services	25	3.6
360 Meters	25	3.8
361 Installations on Customers' Premises	30	3.33
363 Street Lighting and Signal Systems	35	2.86
Composite rate		3.4

*For pole type or wood sub-station. If slab type steel sub-station used rates under Account 343.

For convenience of computing the monthly depreciation, it was agreed to use the rate of 3.48 percent per annum.

APPENDIX B

RETIREMENT AND REPLACEMENT UNITS

AND RELATED ACCOUNTS

STEAM PLANT

Retirement and replacement units for steam plants shall be the same as listed by the F. P. C. Uniform System of Accounts, (Nos. 311-316).

HYDRAULIC PLANT

(The cost of foundations and settings for individual structures and pieces of equipment is to be included with the unit of property of which the structure or equipment is a part except as defined in "NOTE" Under Account 322.)

Account No. 321 - Structures and Improvements

1. Structure, including building foundations; air-conditioning and ventilating system; heating and plumbing sewage system with radiators and heaters and fixtures (but not including furnaces); and lighting system with wiring conduit and fixtures (each isolated structure is a unit).
2. Furnace unit for heating or hot water (each furnace is a unit).
3. Fire protection system.
4. Fire extinguishers (each extinguisher is a unit).
5. Water supply system for drinking and domestic purposes, including pumps, meters, tanks and piping to storage (well and casing are part of Account 330 "Land and Land Rights").

Note: Where the power house structure contains offices, garage, warehouse and other facilities not used in connection with the generation of power and the cost of these facilities represents a substantial investment, this portion of the power house structure should not be included in Account 331. A breakdown of the total cost of the structure should be made and appropriate amounts charged to Accounts 342, 351 and 371.

Account No. 322 - Reservoirs, Dams and Waterways

1. Dam, including aprons, forebay, walls, piers and appurtenant structures (each dam and appurtenant structures except as listed below, is a unit).
2. Boom (each boom is a unit).
3. Bridge or drawspan, appurtenant to dam (each bridge or drawspan is a unit).
4. Dike with riprap or core wall.
5. Fish ladder system (system for each dam is a unit).
6. Flume or pipe line-to-point where division is made to each turbine.
7. Tunnel (each tunnel is a unit).
8. Canal (each canal is a unit).
9. Penstock, starting where division is made to each turbine (Penstock for each plant is a unit).
10. Gates (each gate is a unit).
11. Gate hoist and appurtenant equipment (each hoist is a unit).
12. Gate hoist rack.
13. Heating and thawing system (system for each dam is a unit).
14. Navigation lock.
15. Tailrace, including structures, excavation, dikes, etc. (Tailrace for each plant is a unit).
16. Surge tank.
17. Trash rack (rack for each intake is a unit).
18. Walkway (walkway for each dam is a unit).
19. Wiring, light and power system (system for each dam is a unit).
20. Gaging station and appurtenant equipment (each station is a unit).
21. Flow meter and associated piping (each meter is a unit).

Note: Where the substructure of the power plant is an integral part of the dam, its cost should be included in "Dams" 1

above. Where the power plant and substructure are not integral with the dam, the cost of the substructure should be included in Account 321, "Structures and Improvements."

Account No. 323 - Water Wheels, Turbines and Generators

A. Hydro-Generating Installation:

1. Step or thrust bearing including associated equipment (each bearing is a unit).
2. Exciter, direct connected or belt-driven (each exciter is a unit).
3. Generator (each generator is a unit).
4. Governor and control system (system for each turbine is a unit).
5. Rheostat (each rheostat is a unit).
6. Valve - penstock, main or by-pass (each valve is a unit).
7. Turbine or water wheel, including draft tubs, scroll case, housing, generator drive or connection, and instruments and meters mounted on or part of turbine (each turbine is a unit).

B. Generator Cooling System:

1. Air duct system (system for each generator is a unit).
2. Air washer (each washer is a unit).
3. Blower (each blower is a unit).
4. Cooler (each cooler is a unit).

C. Lubricating or Bearing Pressure System:

1. Accumulator (each accumulator is a unit).
2. Cooler (each cooler is a unit).
3. Pump and drive (each pump is a unit).
4. Purifier or filter, including appurtenant equipment (each purifier is a unit).
5. Tank (each tank is a unit).
6. Piping system (if "unit system" is employed, piping for each turbine-Generator is a unit -- if not unit system, entire piping system is one unit).

Note: Meters, instruments and control equipment mounted on main switchboard should be included in Account 324 (irrespective of purpose of such equipment).

Account No. 324 - Accessory Electric Equipment

A. Switchboard and Switchgear:

1. Panel, including instruments, meters and equipment mounted on or attached thereto, not including oil circuit breakers or voltage regulators (each panel is a unit).
2. Cubicle including equipment contained therein, not including OCB's, (each cubicle is a unit).
3. Oil circuit breaker (each breaker is a unit).
4. Voltage regulator, including associated current and potential transformers (each regulator is a unit).
5. Lightning arrester and capacitor.
6. Set of testing and handling equipment for OCB.

B. Other:

1. Storage battery.
2. Battery charging unit.
3. Separately driven exciter, including drive.
4. Induction regulator.
5. Disconnecting switches, not accessory to a panel (each set is a unit).
6. Station power transformers (each transformer is a unit).
7. Power wiring for generator and exciter, not including outgoing feeder runs (power wiring for each generator and exciter is a unit).
8. Station service wiring, including panels, meters, etc., but not including station service panel and equipment of main switchboard.
9. Outgoing feeder runs (each feeder run is a unit).

Account No. 325 - Miscellaneous Power Plant Equipment

1. Communication system.

2. Crane, hoist or derrick (each crane, hoist or derrick is a unit).
3. Station maintenance equipment. Each principal item such as lathe, drill press, welding equipment, etc., is a unit (other station maintenance equipment are minor items of property).
4. Furniture, office equipment, stores equipment, laboratory equipment, etc. -- the primary use of which is in connection with the generation of power (each principal item such as adding machine, desk, typewriter, bins, dynamometer, etc., is a unit).

Account No. 326 - Roads, Railroads and Bridges
(not integral to dam)

1. Bridge (each bridge is a unit).
2. Culvert (each culvert is a unit).
3. Drawspan (each drawspan is a unit).
4. Railroad.
5. Road or trail (all roads and trails for entire development is a unit).
6. Trestle (each trestle is a unit).

INTERNAL COMBUSTION PLANT

(The cost of foundations and settings for individual structures and pieces of equipment is to be included with the unit of property of which the structure or equipment is a part).

Account No. 331 - Structures and Improvements

1. Structure, including building foundations; air conditioning and ventilating system; heating and plumbing system with radiators and heaters and fixtures (but not including furnace); and lighting system with wiring, conduit and fixtures (each isolated structure is a unit).
2. Furnace unit for heating or hot water (each furnace is a unit).
3. Fire protection system.
4. Fire extinguishers (each extinguisher is a unit).

5. Water supply system, including pumps, meters, tanks and piping to storage (well and casing are part of Account 330 "Land and Land Rights").

Note: Where the major portion of the heating or ventilating system is part of the generating equipment, the total cost of these systems should be included under the proper unit of Account 333. (For example, an air-heating system utilizing the waste heat of the engines by means of a chamber, louvres and fans.)

Note: Where the power house structure contains offices, garage, warehouse and other facilities not used in connection with the generation of power and the cost of these facilities represents a substantial investment, this portion of the power house structure should not be included in Account 331. A breakdown of the total cost of the structure should be made and appropriate amounts charged to Accounts 342, 351 and 371.

Account No. 332 - Fuel Holders, Producers and Accessories

1. Boiler and heater (for heating fuel oil).
2. Fuel oil meter (used for measuring oil unloaded or transferred; each meter is a unit).
3. Pump, used for unloading or transferring (each pump is a unit).
4. Purifier or filter, used for purifying oil at unloading or transferring (each purifier or filter is a unit).
5. Storage tank, including foundations, supports and fire protection (each tank is a unit).
6. Fuel oil piping system, from unloading facilities to day tank.
7. Compressor, for gas fuel plants (each compressor is a unit).
8. Booster, for gas fuel plants (each booster is a unit).
9. Gas piping system, including common header; but not engine headers (if each engine has a separate system, each system is a unit).
10. Recording or indicating device, for gas plants.

Note: In 4 above, "filter" is to be interpreted as a piece of equipment and not merely the packing through which the oil is passed.

Account No. 333 - Internal Combustion Engines

A. Internal Combustion Engine:

1. Engine with foundation, platforms, and generator drive, including all equipment, meters, instruments and panels integral with or mounted on the engine (each engine is a unit).
2. Governor control system (system for each engine is a unit).
3. Meters, instruments and panel for each engine, located remotely from engine (entire panel and equipment is a unit).
4. Starting and turning equipment (equipment for use of one engine is a unit).

Note: "Panel" referred to in 3 above is engine panel for reading temperatures, pressures, etc., and does not refer to the generating unit panel which is a part of the main switch-board.

B. Lubricating System:

1. Cooler (each cooler is a unit).
2. Lube oil piping system, not integral with or mounted on engine (if piping for different engines not interconnected, piping for each is a unit).
3. Lube oil pump and drive, not integral or mounted on engine (each pump is a unit).
4. Lube oil purifier or filter system, not integral with engine (if each engine has separate purifier system, each purifier system is a unit).
5. Lube oil tanks (each tank is a unit).

C. Cooling Water System:

1. Heat exchanger or evaporative cooler, including motors, pumps, fans integral with cooler and duct work (each cooler or exchanger is a unit).
2. Cooling water piping system (where each engine has its own cooling water system, the piping for each engine is a unit).
3. Water pump and drive (each pump is a unit).
4. Water purification or softening system, including piping, controls, etc.

5. Spraying system, not part of evaporative cooler or tower.
6. Tank - storage, surge or hot-well (each tank is a unit).
7. Cooling tower, including all equipment integral with tower.

D. Starting System:

1. Electric motor driven compressor (compressor and motor is a unit).
2. Internal combustion engine driven compressor (compressor and engine is a unit).
3. Compressor with motor and engine drive (compressor and both engine and motor is a unit).
4. Starting piping system.
5. Starting tanks (each tank is a unit).

E. Intake Air Supply:

1. Air piping or duct system (if each engine has separate system, each system is a unit).
2. Intake air filter or screen, including housing and foundation if separate from main structure (each filter system is a unit).
3. Blower (each blower is a unit).
4. Intake silencer, including housing and foundation if separate from main structure (each silencer system is a unit).

F. Exhaust System:

1. Heat exchanger or waste heat boiler (each exchanger is a unit).
2. Exhaust muffler, including stack and supporting members not part of main structure (each muffler is a unit).
3. Exhaust piping system (if each engine has separate system, each system is a unit).

G. Supercharger, when not integral part of engine:

Account No. 334 - Generators

1. Exciter, direct-connected or belt-driven (each exciter is a unit).

2. Generator (each generator is a unit).
3. Railing around generator and exciter (railing for each generator is a unit).
4. Switchboard of instrument board and equipment when mounted on generator (equipment for each generator is a unit).
5. Rheostat (each rheostat is a unit).

Account No. 335 - Accessory Electric Equipment

A. Switchboard and Switchgear:

1. Panel, including instruments, meters and equipment mounted on or attached thereto, not including oil circuit breakers or voltage regulators (each panel is a unit).
2. Cubicle including equipment contained therein, not including OCB's (each cubicle is a unit).
3. Oil circuit breaker (each breaker is a unit).
4. Voltage regulator, including associated current and potential transformers (each regulator is a unit).
5. Lightning arrester and capacitor.
6. Set of testing and handling equipment for OCB.

B. Other:

1. Storage battery.
2. Battery charging unit.
3. Separately driven exciter, including drive.
4. Induction regulator.
5. Disconnecting switches, not necessary to a panel (each set is a unit).
6. Station power transformers, (each transformer is a unit).
7. Power wiring for generator and exciter, not including outgoing feeder runs (power wiring for each generator and exciter is a unit).
8. Station service wiring, including panels, meters, etc., but not including station service panel and equipment of main switchboard.

9. Outgoing feeder runs (each feeder run is a unit).

Account No. 336 - Miscellaneous Power Plant Equipment

1. Communication system.
2. Crane, hoist or derrick (each crane, hoist or derrick is a unit).
3. Station maintenance and shop equipment (each principal item such as lathe, drill press, welding equipment, etc., is a unit - other station maintenance equipment are minor items of property).
4. Furniture, office equipment, stores equipment, laboratory equipment, etc., the primary use of which is in connection with the generation of power (each principal item such as adding machine, desk, typewriter, bins, dynamometer, etc., is a unit).

TRANSMISSION AND DISTRIBUTION PLANT

List "A" for Standard REA Construction

Account 343 - (Transmission) Station Equipment

1. Bus compartments, concrete, brick, and sectional steel, including items permanently attached thereto.
2. Conduit, including concrete and iron duct runs not part of a building.
3. Control equipment, including batteries, battery charging equipment, transformers, remote relay boards, and connections.
4. Conversion equipment, including transformers, indoor and outdoor, frequency changers, motor generator sets, rectifiers, synchronous converters, motors, cooling equipment, and associated connections.
5. Fences.
6. Fixed and synchronous condensers, including transformers, switching equipment, blowers, motors, and connections.
7. Foundations and settings, specially constructed for and not expected to outlast the apparatus for which provided.
8. General station equipment, including air compressors, motors, hoists, cranes, test equipment, ventilating equipment, etc.

9. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.
10. Primary and secondary voltage connections, including bus runs and supports, insulators, potheads, lightning arresters, cable and wire runs from and to outdoor connections or to manholes and the associated regulators, reactors, resistors, surge arresters, and accessory equipment.
11. Switchboards, including meters, relays, control wiring, etc.
12. Switching equipment, indoor and outdoor, including oil circuit breakers and operating mechanisms, truck switches, and disconnect switches.
13. Tools and appliances.

List "B" for Non-Standard Construction (Acquisitions, etc.)

Account 343 - (Transmission) Station Equipment

1. Bus compartments, concrete, brick, and sectional steel, including items permanently attached thereto.
2. Conduit, including concrete and iron duct runs not part of a building.
3. Control equipment, including batteries, battery charging equipment, transformers, remote relay boards, and connections.
4. Conversion equipment, including transformers, indoor and outdoor, frequency changers, motor generator sets, rectifiers, synchronous converters, motors, cooling equipment, and associated connections.
5. Fences.
6. Fixed and synchronous condensers, including transformers, switching equipment, blowers, motors, and connections.
7. Foundations and settings, specially constructed for and not expected to outlast the apparatus for which provided.
8. General station equipment, including air compressors, motors, hoists, cranes, test equipment, ventilating equipment, etc.
9. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.

10. Primary and secondary voltage connections, including bus runs and supports, insulators, potheads, lightning arresters, cable and wire runs from and to outdoor connections or to manholes and the associated regulators, reactors, resistors, surge arresters, and accessory equipment.
11. Switchboards, including meters, relays, control wiring, etc.
12. Switching equipment, indoor and outdoor, including oil circuit breakers and operating mechanisms, truck switches, and disconnect switches.
13. Tools and appliances.

Account 352 - Station Equipment

1. Bus compartments, concrete, brick and sectional steel, including items permanently attached thereto.
2. Conduit, including concrete and iron duct runs not part of building.
3. Control equipment, including batteries, battery charging equipment, transformers, remote relay boards, and connections.
4. Conversion equipment, indoor and outdoor, frequency changers, motor generator sets, rectifiers, synchronous converters, motors, cooling equipment, and associated connections.
5. Fences.
6. Fixed and synchronous condensers, including transformers, switching equipment, blowers, motors, and connections.
7. Foundations and settings, specially constructed for and not expected to outlast the apparatus for which provided.
8. General station equipment, including air compressors, motors, hoists, cranes, test equipment, ventilating equipment, etc.
9. Platforms, railings, steps, gratings, etc., appurtenant to apparatus listed herein.
10. Primary and secondary voltage connections, including bus runs and supports, insulators, potheads, lightning arresters, cable and wire runs from and to outdoor connections or to manholes and the associated regulators, reactors, resistors, surge arresters, and accessory equipment.
11. Switchboards, including meters, relays, control wiring, etc.

12. Switching equipment, indoor and outdoor, including oil circuit breakers and operating mechanisms, truck switches, disconnect switches.

Account 354 - Poles, Towers and Fixtures

1. Pole Assembly:
One pole in place, erected and tamped (35-7, 35-6, 35-5, etc.).
2. Pole Key Assembly:
Log or logs, plank or planks, or precast reinforced key and hardware.
3. Pole Top Assembly Unit: (1, 2, or 3-phase)
Hardware, crossarms, and their appurtenances, insulators, etc., required to support primary conductors. (A, B, C, units, etc.)
4. Guy Assembly:
Galvanized guy wire, hardware, guy insulator where necessary, 3 bolt clamps, etc.
5. Guy Guard Assembly:
One guy guard and appurtenant hardware.
6. Anchor Assembly: Anchor with rod, complete, installed.
 - (a) Rod, thimble eye if separate, patented anchor, log anchor, concrete cone, or other anchoring means.
 - (b) Rock anchor includes rod and key, if any.
7. Secondary Assembly:
Hardware, insulators to support secondary conductors but does not include any appurtenances to support service drop conductors.
 - (a) Racks complete with bolts and insulators.
 - (b) One point supports complete with insulator, bolts, etc., such as J5, etc.
 - (c) Secondary crossarm complete insulators and hardware.

Account 355 - Overhead Conductors and Devices

1. Line Conductor Assembly:
 - (a) At least 1000 ft. or more of conductor and appurtenances such as sleeves, ties, armor rods, etc.
[(D6A, D6, D9 $\frac{1}{2}$ d, D 4 7/1 ACSR) etc.]

- (b) Any length of line when all other assemblies of the line are retired at the same time.

2. Ground Assembly:

Ground wire, ground electrode, and all connecting and fastening appurtenances.

- (a) Ground rod, copper lead, staples and connectors.
- (b) Butt ground, staples and connectors.
- (c) Trench ground, wire staples and connectors.
- (d) Any patented ground and appurtenances.

3. Sectionalizing Device Assembly:

One or more disconnecting devices at one location either automatic or manually operated with all appurtenances to connect in electric circuit.

- (a) Fuse cutout or cutouts (1, 2, or 3 shot), crossarm, (if any), braces, jumpers, connectors, etc.
- (b) Oil circuit breaker or breakers (crossarm, braces, bolts, lags, jumpers and hot line clamps).
- (c) Any other complete unit with associated equipment such as 3-Phase breaker and relays, pole top switch, unfused disconnect switch. One wire disconnect switch; i.e., solidly fused cutout.

4. Lightning Arrestor Assembly:

Lightning arrestor device and mounting hardware. (When not part of a transformer assembly.)

5. Hot Line Clamp Assembly:

Manually operated clamp to sectionalize line (when not part of some other assembly).

Account 357 - Underground Conductor and Devices

Underground cable installation assembly (when not part of a substation assembly).

- (a) A length of underground cable including potheads at each end, and other appurtenances.
- (b) A complete installation of cable if not potheads are used (one circuit).

Account 358 - Line Transformers

1. Transformer Assembly: (Distribution only)

- (a) Conventional transformer with hot line clamp, jumper and cutout with or without arrester.

- (b) Self-protected transformer, with jumper and hot line clamp.
 - (c) Cap transformer with jumper and hot line clamp and secondary fuse, if any.
 - (d) Any other type complete with all appurtenances.
2. Voltage Regulator Assembly:
- One unit and all appurtenances to regulate voltage.

Account 359 - Services

1. Service Assembly:
- (a) Weatherproof wire at least 100' long.
 - (b) Any length of service wire when the rest of the service assemblies are retired at the same time.
2. Service Entrance Assembly:
- (a) Service entrance cable, driploop, entrance loop, cable, ground, multibreaker and other appurtenances (when meter loop furnished by cooperative).
 - (b) No material (when meter loop furnished by other than cooperative).

Account 360 - Meters

1. Primary or large power metering assembly:
- Meter, base, potential transformers and/or current transformers, appurtenant hardware.
2. Meter equipment (small demand loads):
- (a) 1 phase, 120-V meter and base.
 - (b) 1 phase, 120-240-V meter and base.
 - (c) 1 phase, any voltage meter and base.
 - (d) 3 phase, any voltage meter and base.

APPENDIX C.

MATHEMATICAL ANALYSES OF THE DEPRECIATION RATES

Composite rate of depreciation for Distribution Plant line conductor:

The following table is based upon a tabulation of various types of conductor in approximately 71,000 miles of line as indicated by Construction Contracts let in the Calendar Year 1940.

Relative amounts of different type line conductors:

<u>Copperweld Type</u>	<u>H.D. Copper</u>	<u>Aluminum</u>	<u>Steel</u>
52%	10%	34%	4%

Based upon the above figure the composite rate for ACCOUNT 355 is:

<u>AMOUNT</u>	<u>DEPRECIATION RATE</u>	<u>CALCULATION</u>
10.% x	2.%	= 20.
34.% x	2.85	= 96.9
52.% x	2.85	= 148.2
<u>4.% x</u>	<u>6.3</u>	= <u>25.2</u>
100 %		267.22

$$\text{Composite rate} = \frac{267.2}{100} = 2.67\%$$

APPENDIX D

COMPARATIVE TABLE OF LIFE YEARS OF ELEMENTS OF TRANSMISSION AND DISTRIBUTION PLANTS

TRANSMISSION PLANT

Account Number	REA	AVERAGE USEFUL LIFE YEARS				
		Bureau of Internal Revenue	Federal Power Commission	Wisconsin Public Service Commission	Ontario Hydro Commission	Tennessee Valley Authority
342 Structures & Improvements	50	48	40	47.5	50	
343 Station Equip- ment	35	28	25	31.2	35	
344 Towers & Fixtures	50	50	50	45.9	35	
345 Poles and Fixtures	33-1/3	33	30	32.1	20	25
346 Overhead Conductor & Devices		50	45	46.4		40
Copper	50				50	
Aluminum	40				40	
Composite	40					
Copper	40					
Composite	15					15
Steel						
347 Underground Conduit	50	75	50	33.	50	

Account Number	REA	Wisconsin				Tennessee Valley Authority
		Bureau of Internal Revenue	Federal Power Commission	Public Service Commission	Ontario Hydro Commission	
AVERAGE USEFUL LIFE YEARS						
348 Underground Conductors and Devices	30	40	40	31.7	30	-
349 Roads and Trails	60	-	-	-	-	50
DISTRIBUTION PLANT						
351 Structures and Improvements	40	45	40	45.4	50	25
352 Station Equipment	25	28	25	26.2	35	25
354 Poles, Towers and Fixtures	25	35	30	25.6	20	25
355 Overhead Conductor and Devices	50	33	28	36.7	-	40
Copper					50	
Aluminum					40	
Composite	35					
Copper	35					
Composite	15				15	
Steel						
356 Underground Conduit	30	60	50	58.7	50	
357 Underground Conductor and Devices	30	40	40	29.9	30	

Account Number	REA	Bureau of Internal Revenue	Federal Power Commission	Wisconsin		Ontario Hydro Commission	Tennessee Valley Authority
				Public Service Commission	L I F E		
				A V E R A G E U S E F U L L I F E Y E A R S			
358 Line Trans- formers	25	28	25	27.8	30	25	
359 Services	25	28	27	29.5	40	22.2	
360 Meters	30	28	25	27.9	40	-	
361 Installations on Customers' Premises	30	25	-	18.6	-	-	
363 Street Lighting	25	22	20	22.5	20	25	

